

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 1, 2, 4-9, 11-15 and 17-21 were pending. Claims 1, 2, 4-9, 11-15 and 17-21 were rejected.

Claims 1, 9, and 15 have been amended. No claims have been canceled. No claims have been added. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicant submits that the amendments do not add new matter.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1, 2, 4-9 and 11-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,049,880 of Song ("Song"), in view of, Applicant's Admitted Prior Art ("AAPA"), U.S. Patent No. 6,330,169 of Mullett ("Mullett") and U.S. Patent No. 5,835,360 of Jansen ("Jansen"). Claims 15 and 17-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Song, in view of AAPA and Jansen.

Applicants have amended claim 1 to particularly point out that the output winding of the second output of the first stage is directly connected to an input winding of a second stage through a two wire bus. The first stage drives the second stage using the direct two-wire bus connection between the output winding of the second output and the input winding of the second stage.

The Examiner stated that Song "does not explicitly teach that the first and second stages are coupled to each other by a two wire bus". (Office Action, p. 4, 08/26/05).

As such, Song fails to disclose, teach, or suggest limitations of amended claim 1 of the output winding of the second output of the first stage that is directly connected to an input winding of a second stage through a two wire bus. Additionally, Song fails to disclose, teach, or suggest that the first stage drives the second stage using the direct two-wire bus connection

between the output winding of the second output and the input winding of the second stage, as recited in amended claim 1.

AAPA merely discloses an individual flyback converter (page 2, lines 1-3) and an individual forward converter (lines 12-14), in contrast to the output winding of the second output of a first stage being directly connected to an input winding of a second stage through a two-wire bus, as recited in amended claim 1. Additionally, AAPA does not disclose the first stage drives the second stage using the direct two-wire bus connection between the output winding of the second output and the input winding of the second stage, as recited in amended claim 1.

Mullett merely discloses a two-output flyback dc-to-dc converter providing a first DC output voltage at a first output 21 and a second DC output voltage at a second output 22 (col. 2, lines 8-26). Miller, similarly to Song and AAPA fails to disclose the output winding of the second output of the first stage being directly connected to an input winding of a second stage through a two wire bus, as recited in amended claim 1. Additionally, Mullett, similarly to Song and AAPA, fails to disclose the first stage driving the second stage using the direct two-wire bus connection between the output winding of the second output and the input winding of the second stage, as recited in amended claim 1.

Jansen discloses a completely different circuit than claimed in amended claim 1. More specifically, Jansen discloses a switched mode power supply that has two output circuits, a first output circuit 31 outputs a higher dc voltage, and a second output circuit 32 outputs a lower dc output voltage (col. 3, lines 45-67, Figure 3). In particular, Jansen discloses

The output voltage of the second output circuit 32 is dependent on the output voltage chosen for the first output circuit 31, this dependency being due to the inductive coupling of windings 36 and 37. In general terms, since the output voltages of circuits 31 and 32 correspond to the voltages induced in windings 36 and 37 respectively during collapse of the magnetic field in the common core, the ratio of the output voltages of circuits 31 and 32 will correspond to the turns ratio of windings 36 and 37 (this is not fully accurate due mainly to the diode voltage drops in the circuits). In the FIG. 3 power supply, the output voltage of the second output circuit 32 is less than the output voltage

of output circuit 31.

(Jansen, col. 4, lines 1-20) (emphasis added)

Thus, Jansen merely discloses inductive coupling between winding 36 of the first output circuit 31 and winding 37 of second output circuit 32 in contrast to directly connecting the output winding of the second output of the first stage to an input winding of a second stage through a two wire bus. As such, Jansen, similarly to Song, AAPA, and Mullett does not disclose that the first stage drives the second stage using the direct two-wire bus connection between the output winding of the second output and the input winding of the second stage, as recited in amended claim 1. It is respectfully submitted that Jansen does not teach or suggest connecting two windings 36 and 37 directly. In contrast, Jansen discloses that winding 37 and 36 are coupled inductively, and the lower dc voltage induced in winding 37 is determined by the higher dc voltage induced in winding 37 (Jansen, col. 4, lines 1-20). It is respectfully submitted that if the winding 36 of the first output circuit would be directly connected to winding 37 of the second output circuit through a two-wire bus, as recited in amended claim 1, the dc voltage in winding 36 will not be lowered relative to the dc voltage in winding 36, as intended, and the power supply circuit of Jansen will not operate.

Thus, neither Song, AAPA, Mullett, or Jansen discloses, teaches, or suggests discussed above limitations of amended claim 1.

Furthermore, even if Song, AAPA, Mullett, and Jansen were combined, such a combination would lack such limitations of amended claim 1.

Therefore, Applicants respectfully submit that amended claim 1 is not obvious under 35 U.S.C. § 103 (a) over Song in view of AAPA, in view of Mullett, and further in view of Jansen.

Because amended independent claims 9 and 15 contain at least the discussed limitations of amended claim 1, Applicants respectfully submit that claims 9 and 15 are likewise not obvious

under 35 U.S.C. § 103 (a) over Song in view of AAPA, in view of Mullett, and further in view of Jansen.

Given that claims 2, 4-8, 11-14, and 17-22 depend, directly or indirectly, from respective amended claims 1, 9 and 15, and add additional limitations, Applicants respectfully submit that claims 2, 4-8, 11-14, and 17-22 are likewise not obvious under 35 U.S.C. § 103 (a) over Song in view of AAPA, in view of Mullett, and further in view of Jansen.

CONCLUSION


It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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